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### ORCHIDACEAE PERUVIANAE II

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THIS ARTICLE is the second in the series devoted to the novelties in the orchid flora of Peru. It includes eleven species and one variety that hitherto apparently have not been described.

#### **Stenoptera ciliaris** *C. Schweinfurth sp. nov.*

Herba terrestris, elata. Radices fasciculatae, tuberosae. Caulis supra tomentosulus. Folia infra fasciculata et imbricantia, supra sparsa, elliptico-oblonga vel oblongo-lanceolata, acuta vel breviter acuminata, basim versus sensim angustata. Spica elongato-cylindrica, subdense multiflora. Florum bracteae ovato-lanceolatae, dense ciliatae. Flores parvi, extus tomentosi. Sepalum dorsale columnae adnatum, elliptico-oblongum vel oblongo-lanceolatum. Sepala lateralibus oblique elliptica vel elliptico-lanceolata, in tubulum brevem cum labello connata. Petala oblique linearia vel lineari-oblonga, margine superiore minute ciliolata. Labellum superum, tubulari-concavum, expansum late ovatum, truncato-obtusum. Columna generis.

Plant terrestrial, tall, up to about 7.4 dm. high. Roots fasciculate, stout, tuberous, lanuginose. Stem stout, glabrous or nearly so below, densely tomentulose above, with a cluster of about four crowded leaves near the base of the plant and scattering blades and tubular sheaths above.

Leaves elliptic-oblong to oblong-lanceolate (the lowermost blade sometimes broadly oval), up to about 22 cm. long and 5 cm. wide, abruptly acute to short-acuminate, narrowed to a sheathing base, with the lower cluster of blades imbricating below. Spike elongate-cylindric, subdensely many-flowered (looser toward the base), up to about 26 cm. long; rachis densely tomentulose. Floral bracts ovate-lanceolate, long-acuminate, up to 1.9 cm. long, densely tomentulose on the outer surface, finely short-ciliate (only minutely so near the apex), slightly shorter than the flower. Ovary and outer surface of flower tomentose. Flowers small, subfleshy, green or greenish white, campanulate in natural position with the lower part of the sepals tubular-concave and the apex reflexed. Dorsal sepal with its base adnate to the column, elliptic-oblong or oblong-lanceolate, narrowed to an obtuse or subacute apex, about 6 mm. long and 2 mm. wide, with one prominent nerve. Lateral sepals connate with the base of the lip into a short tube; free portion obliquely elliptic or elliptic-lanceolate, shortly acuminate, about 7 mm. long and 3.3 mm. wide, 2- to 3-nerved. Petals adnate to the sepaline tube, obliquely linear or oblanceolate-linear, subacute, 1-nerved, with the upper margins more or less minutely cellular-ciliolate, about 5.8 mm. long. Lip uppermost, adnate at base to the short sepaline tube, tubular-concave in natural position, broadly ovate in outline when expanded, with lobulate-undulate upper margins and truncate-obtuse apex having a short blunt apicule, about 7.5 mm. long through the center of the free portion, rather fleshy except near the margins, bicarinate at base. Column relatively elongate, 5 mm. long in front, abbreviated and adnate to the ovary on the back, retrorsely geniculate above, densely pubescent. Anther transversely and shallowly ovoid, carinate-acute at the summit, 2-celled.



*Stenoptera ciliaris* is allied to *S. acuta* Lindl., but differs from that species in having shorter broader leaves, pubescent ciliolate floral bracts and dissimilar lateral sepals.

AYACUCHO: Aina, between Huanta and Río Apurímac, at 750-1000 meters altitude, in open woods, May 7, 17, 1929, *E.P. Killip & A.C. Smith 22521* (TYPE in U.S. Nat. Herb. No. 1357470); clearing, *Killip & Smith 22615*; on open hillside, August 6, 1940, *Killip & Smith 22692*. —Cuzco: Machu Picchu, Urubamba, at 2000 meters altitude, on cliffs, *C. Vargas 1889*.

***Stenoptera laxiflora* C. Schweinfurth sp. nov.**

Herba elata. Radices non visae. Caulis robustus, dense tomentosus, infra dense foliatus, supra vaginatus. Folia elliptico-lanceolata vel oblongo-lanceolata, in basim vaginantem sensim angustata, infra conferta, supra in vaginas tubulatas redacta. Spica elongato-cylindrica, laxe multiflora. Florum bracteae lanceolato-ovatae, dorso tomentosae, margine ciliatae. Flores parvi, extus tomentosi. Sepalum dorsale lanceolato-ellipticum, columnae adnatum. Sepala lateralía parte basali in tubum longum conata; pars libera oblique oblongo-oblancheolata. Petala linearía. Labellum superum, tubulari-involutum cum apice patenti-reflexo, parte inferiore sepalorum tubo longe adnata, parte libera expansa spathulato-obovata. Columna longa, dorso sepalorum tubo longe adnata, supra retrorso-arcuata.

Plant tall, stout, apparently up to 10.6 dm. high. Roots lacking in our specimen. Stem stout, densely tomentose, densely leafy below, many-sheathed above. Leaves oblong-lanceolate to elliptic-lanceolate, acuminate, gradually narrowed to a sheathing base (the blades are imbricating on the lower part of the stem), up to about 21 cm. long (including the sheathing base) and 3.4 cm. wide, erect-spreading, gradually diminishing above into loose tubular sheaths (which are tomentulose below) and finally into

bracts. Spike elongate-cylindric, loosely many-flowered, up to about 26.5 cm. long; rachis densely tomentose. Floral bracts ovate-lanceolate, acuminate, tomentose on the outer surface, finely ciliate, surpassing the ovary but shorter than the flower. Ovary densely tomentose. Flowers small, "white with yellow center". Sepals tomentose on the outer surface, tubular-concave with recurved apex, subfleshy. Dorsal sepal lanceolate-elliptic, subacute, 8 mm. long, about 2.3–2.6 mm. wide, 3-nerved, adnate to the column. Lateral sepals connate below into a long tube which is about 7 mm. long; free portion obliquely oblong-ob lanceolate, acute, 4-nerved, about 10.5 mm. long and 4 mm. wide. Petals linear or oblanceolate-linear, very abruptly and obliquely subacute, 1-nerved, about 8–9 mm. long, with the upper margins slightly irregular. Lip uppermost, tubular-involute in natural position with recurved-flaring apical portion, long-adnate to the sepaline tube at the base; free portion when expanded broadly spatulate-obovate with the lower part concave and very fleshy and the anterior part relatively thin, semiorbicular and lobulate, about 8.5 mm. long. Column long, slender, about 12 mm. long, retrorsely arcuate and lightly clavate above, with its posterior surface long-adnate to the sepaline tube, tomentose in front in the middle, retuse and apiculate at the summit; anther semiovoid, obtuse, 2-celled.

*Stenoptera laxiflora* is allied to *S. peruviana* Presl, but differs in having much taller stouter stems which are leafy, longer looser spikes and larger flowers with dissimilar lip.

HUANUCO: Pampayaco, Hacienda at mouth of Chinchao Río, at about 1070 meters altitude, July 19-25, 1923, *J. Francis Macbride* 5126 (TYPE in Herb. Field Mus. No. 536176).

***Stenoptera montana* C. Schweinfurth sp. nov.**

Herba terrestris, gracilior. Radices fasciculatae, nu-



merosae. Caulis glaber, prope basim conferte foliosus, supra vaginis tubulatis ornatus. Folia oblanceolata vel oblongo-oblanceolata. Spica cylindrica, saepissime laxe multiflora. Florum bracteae ovato-lanceolatae, glabrae, quam flores breviores. Flores parvi. Sepalum dorsale elliptico-lanceolatum, columnae adnatum. Sepala lateralia basi in tubum brevem connata; pars libera oblongo-lanceolata vel lineari-oblonga, falcata. Petala oblique linearia, supra paulo latiora. Labellum superum, carnosum, tubulari-involutum, expansum cucullato-oboatum, dorso dense muriculatum, marginibus eroso-denticulatis. Columna generis.

Plant terrestrial, rather slender, up to about 5.1 dm. tall. Roots fasciculate, numerous, slender-tuberous. Stem glabrous, provided above the base with about four tubular-cylindric sheaths which are loose in the dried specimen and have an acute apex. Leaves four to five, crowded at or just above the base, oblanceolate to oblong-lanceolate, acute, gradually narrowed below to a sheathing base, up to about 15.5 cm. long (including the base) and 2.5 cm. wide, with the mid-nerve carinate beneath. Spike slender-cylindric, up to 12.5 cm. long, subdensely or loosely flowered, commonly many-flowered; rachis more or less tomentose. Floral bracts ovate-lanceolate, acuminate, glabrous, scarious, surpassing the pubescent ovary but shorter than the flowers. Flowers small with erect lip and membranaceous reflexed or spreading sepals and petals, green throughout. Dorsal sepal elliptic-lanceolate, obtuse or subacute with a cucullate apex, adnate to the column at its base, about 5.2–6.2 mm. long and 2 mm. wide, 1- or 3-nerved. Lateral sepals obliquely linear-oblong to oblong-lanceolate, falcate, complicate-acute, 1-nerved, connate into a short tube at base, the free portion about 6.5–7.5 mm. long and 2 mm. wide. Petals obliquely oblanceolate-linear, adnate to the col-

umn or to the sepaline tube, about 5.9–7.3 mm. long, obliquely acute or obtuse, often with irregular upper margins. Lip uppermost, fleshy, tubular-involute in natural position, adnate to the sepaline tube, concave-obovate when expanded, obtuse, with the free part about 8–9.5 mm. long; the sides thickened at the base, the upper margins erose-denticulate and the outer surface densely muriculate. Column elongate, clavate above, about 6.5 mm. long in front, pubescent, retrorsely geniculate or arcuate above, retuse at the apex.

This species appears to be without close allies.

HUANUCO: Mito, at about 2760 meters altitude, "Bunch-grass uplands", April 8-18, 1923, *J. Francis Macbride 3357* (TYPE in Herb. Ames No. 58406; DUPLICATE TYPE in Herb. Field Mus. No. 534427).

***Stenoptera pilifera* (HBK.) C. Schweinf. var. parviflora C. Schweinfurth var. nov.**

Herba floribus multo minoribus albidis et bracteis longioribus a specie differt.

Plant up to about 3.5 dm. tall, with only the remnants of leaves present at flowering time. Stem stout or slender, glabrous, mostly or entirely concealed by tubular white-hyaline sheaths with a free triangular-acuminate apex. Spike thick-cylindric, dense, several- to many-flowered, up to 7.7 cm. long. Floral bracts ovate-lanceolate, long-acuminate, white-hyaline, concave, somewhat surpassing the flowers (at least in the lower portion). Flowers relatively small. Dorsal sepal narrowly elliptic-lanceolate, acute, adnate to the column, 3-nerved, about 10.5 mm. long and 2.2 mm. wide. Lateral sepals connate into a neck below; free portion obliquely oblong-ob lanceolate or elliptic-ob lanceolate, acute, about 11 mm. long and 3 mm. wide, 4-nerved. Petals linear, adnate to the sepaline tube, about 9.6 mm. long, subacute, 1-nerved. Lip uppermost, long-adnate to the sepaline tube; free



part oblong-elliptic, lightly concave, abruptly subacute, gradually narrowed below, little shorter than the lateral sepals. Column slender, gradually dilated above, shortly adnate to the sepaline tube by the dorsal surface, densely short-pubescent on the lower half in front.

HUANUCO: Llata, at about 2150 meters altitude, on steep canyon slope in loose rocky soil, August 21, 1922, *Macbride & Featherstone 2301* (TYPE in Herb. Field Mus. No. 518784; DUPLICATE TYPE in Herb. Ames No. 58324).

***Altensteinia longispicata* C. Schweinfurth sp. nov.**

Herba robusta, elata. Caulis glaber, foliis ligulatis scariosis sparse ornatus. Spica longe cylindracea, densissime multiflora. Flores parvuli. Sepala similia, elliptico-lanceolata, dorso pubescentia, lateralibus basi obliqua. Petala lineari-oblancheolata, apice truncato marginibus irregularibus. Labellum superum, valde semiellipsoideocucullatum, crassius, marginibus fimbriatis. Columna clavata, apice retusa.

Plant robust, up to 7.7 dm. tall including the inflorescence (the base of the plant not present), glabrous, adorned with several leaves. Leaves ligulate, acuminate, scarious, with clasping sheathing bases which are tubular-cylindric and imbricating near the base, up to 15 cm. long and 2 cm. wide, (the only complete leaf present is about 15 cm. long including the sheathing base and 1.6 cm. wide). Spike elongate, cylindric, very densely many-flowered, up to 19.6 cm. long and 2 cm. in diameter; rachis finely tomentose. Floral bracts lanceolate-ovate, acute or acuminate, concave, scarious, pubescent on the outer surface, about equaling the flowers. Ovary densely pubescent. Flowers small. Sepals and petals membranaceous. Dorsal sepal elliptic-lanceolate or ovate-lanceolate, shortly adnate to the column below, obtuse at the cucullate apex, about 7 mm. long and 3.3 mm. wide, 3-nerved,

dorsally pubescent. Lateral sepals elliptic-lanceolate, oblique at the base, about 8 mm. long and 3 mm. wide, acute, 3-nerved, dorsally pubescent. Petals linear-oblan-ceolate, about 7.9 mm. long and 1.3 mm. wide above the middle, 1-nerved, with irregularly fimbriate margins except near the base, truncate with irregular margins at the apex. Lip semiellipsoid-cucullate in natural position, rather fleshy, with fimbrillate margins, about 9.6 mm. long, minutely retuse when expanded, densely minute-papillose on the outer surface, 7-nerved with the side nerves branching. Column clavate, fleshy, retuse at the apex with a pair of lateral porrect ears, about 5 mm. long.

*Altensteinia longispicata* recalls *Altensteinia marginata* Reichb. f., but differs in having a more densely flowered inflorescence, linear-oblan-ceolate fimbriate petals and a densely fimbrillate-margined opening to the lip.

HUANUCO: Llata, at about 2150 meters altitude, among yuccas on top of stone fence, August 21, 1922, *Macbride & Featherstone 2254* (TYPE in Herb. Ames No. 58437. DUPLICATE TYPE in Herb. Field Mus. No. 518738).

***Ponthieva lilacina* C. Schweinfurth sp. nov.**

Herba terrestris, mediocris. Folia maxima pro parte basalia, rosulata, glabra, ovalia vel oblongo-elliptica vel oblanceolata, acuta, breviter vel conspicue petiolata. Caulis infra folio parvo et supra vaginis paucis remotis ornatus. Racemus pauci-vel pluriflorus, laxissimus. Sepala dorso leviter glanduloso-pubescentia. Sepalum dorsale ellipticum, acutum. Sepala lateralia oblique late ovata, obtusa. Petala columnae supra adnata, longe unguiculata; lamina oblique triangulari-oblonga, oblique subacuta, basi extus auriculata. Labellum distincte unguiculatum; lamina conduplicata, apice trilobata, parte basali semiorbiculari, antice truncata; lobo medio parvo



ovato-oblongo apice cucullato. Columna perbrevis, supra abrupte dilatata.

Plant terrestrial. Roots fascicled, tuberous, lanuginose. Leaves mostly basal, rosulate, glabrous, two to four, oval to oblong-elliptic or oblanceolate, acute to short-acuminate, narrowed to a very short or rather long petiole; lamina up to about 12 cm. long and 3.5 cm. wide; petioles up to about 5.5 cm. long, channelled, imbricating at the base. Scape slender, up to about 22 cm. tall, adorned with one small leaf near the base and with two to three remote tubular sheaths above, finely glandular-pubescent above and often to the base. Raceme up to about 9 cm. long, few- to many-flowered, very loose in anthesis. Floral bracts lanceolate, acuminate, up to about 9 mm. long, one half as long as the pedicellate ovary or less. Flowers small, lilac, with segments spreading in anthesis. Sepals lightly glandular-pubescent without. Dorsal sepal elliptic, gradually narrowed to an acute apex, about 7 mm. long and 2.8–3 mm. wide, 3-nerved. Lateral sepals broadly ovate or elliptic-ovate, obtuse, oblique, about 7 mm. long and 4.5 mm. wide, 3- to 5-nerved. Petals adnate to the upper part of the column, long-clawed; lamina very obliquely oblong-triangular with a hastate base and a very oblique obtuse to subacute apex, about 5–5.5 mm. long; more or less minutely cellular-ciliate on the lateral margins; claw very slender, about 1.5–1.8 mm. long. Lip with a distinct claw which spreads from the column at a right angle (or is slightly ascending) and has a pair of erect triangular calli at its apex; lamina conduplicate, sharply 3-lobed at the apex, abruptly and sharply cordate at base, about 3 mm. long, when expanded the basal portion is semiorbicular and about 3.8–4 mm. wide with the anterior margins truncate; mid-lobe small, ovate-oblong, apically cucullate, about 1 mm. long. Column very short, about 3.7 mm. long, abruptly much dilated above.

DEPARTMENT UNKNOWN: *C. Vargas 1819*.—Cuzco: Prov. Quispicanchi, Marcapata Valley, at 1700-1800 meters altitude, "evergreen hard-leaved bushwood consisting of trees and shrubs in the shadow", February 20, 1929, *A. Weberbauer 7842* (TYPE in Herb. Field Mus. No. 605259; DUPLICATE TYPE in Herb. Ames No. 58711).

***Ponthieva similis* *C. Schweinfurth* sp. nov.**

Herba terrestris, mediocris. Radices fasciculatae, lanuginosae. Folia maxima pro parte basalia, elliptica, acuminata, longe petiolata, omnino dense villosa. Scapus omnino villosus, bracteis vel vaginis remotis ornatus. Racemus laxe pauci-vel multiflorus. Sepalum dorsale elliptico-lanceolatum, acuminatum. Sepala lateralialia in laminam suborbicularem, profunde concavam, breviter bidentatam connata. Petala longe unguiculata, obliquissime semiovata, obtusa. Labellum perparvum, sessile, columnae medio adnatum, concavo-conduplicatum; lamina vi expansa subquadrato-obovata, basi cucullato-callosa. Columna supra dilatata.

Plant terrestrial, up to about 4.5 dm. tall. Roots fasciculate, fibrous, lanuginose. Leaves chiefly basal, rosulate, up to nine, long-petioled; lamina elliptic, up to about 9.5 cm. long and 3.1 cm. wide, sharply acuminate, gradually narrowed below, membranaceous, densely pilose on both surfaces; petioles channelled, up to 6 cm. long, densely pilose, gradually dilated toward the imbricating base. Scape densely pilose throughout, provided below with one small leaf and above with two or three remote sheaths. Raceme short, up to about 8.2 cm. long, laxly several- to many-flowered. Floral bracts lanceolate, acuminate, concave, pilose, much shorter than the pedicellate ovary. Flowers inverted with lateral sepals and lip uppermost, membranaceous. Sepals very sparsely long-pilose without. Dorsal sepal narrowly elliptic-lanceolate, gradually narrowed to an acute apex, about 12 mm. long and 3.2 mm. wide, 3- to 5-nerved. Lateral sepals connate



into a suborbicular concave, shortly bidentate lamina which is about 11.2–11.8 mm. long to the tip of a lobe in natural position and 10.4 mm. wide, about 10-nerved. Petals dimidiate, very obliquely semiovate, abruptly long-unguiculate; lamina about 8.8 mm. long and 4 mm. wide, broadly obtuse at the apex, rounded at the base which terminates next to the claw in a circinate subacute horn-like or bilobed apex; claw linear but gradually dilated above, about 3.5 mm. long, attached to the upper part of the column. Lip very small, sessile, adnate to the middle of the column, semisigmoid in profile, about 4.2–4.5 mm. long, deeply concave below, erect and parallel to the column above, at the base with a prominent porrect bilobed cucullate callus that extends on the disc as two short parallel keels; lamina conduplicate, when forcibly expanded subquadrate-obovate, indistinctly lobulate or apiculate at the broad apex. Column stout, dilated above, about 3.5–4.5 mm. long.

This species is allied to *Ponthieva maculata* Lindl., but has dissimilar lateral sepals and petals.

HUANUCO: Cani, 7 miles Northeast of Mito, at about 2600 meters altitude, "decayed leaves of dense stream-wood floor, flowers white, the upper parts brown, the lower green-veined; inner part with 2 green spots and pink-tipped", April 16-26, 1923, *J. Francis Macbride 3395* (TYPE in Herb. Field Mus. No. 534465; DUPLICATE TYPE in Herb. Ames No. 58709).

### ***Spiranthes curvicalcarata* C. Schweinfurth sp. nov.**

Herba terrestris. Radices fasciculatae, crassae, lanuginosae. Folia basalia, rosulata, petiolata; lamina elliptico-ovata, acuta, basi late cuneata. Scapus infra glaber, supra valde pilosus, vaginis pluribus longissime acuminatis ornatus. Racemus laxius multiflorus. Flores grandes, extus glanduloso-pubescentes. Sepalum dorsale anguste oblanceolato-oblongum. Sepala lateralibus basi in calcar ellipsoideum apice hamatum connata, parte libera arcuato-

decurvata, falcata, lineari-oblancheolata. Petala sepalo dorsali valde adnata, oblancheolato-linearia, acuta. Labelum apice trilobatum cum lobo medio reflexo, extensum lineari-spathulatum, basi auriculata dilatata; lobus medius rotundato-ovatus; discus maxima pro parte pubescens. Columna gracilis.

Plant terrestrial, up to about 5 dm. high. Roots fasciculate, tuberous, stout, lanuginose. Leaves seven, basal, rosulate, petioled; blade ovate-elliptic, up to about 8 cm. long and 3.6 cm. wide, sharply acute, broadly cuneate at base, with about five prominent nerves beneath; petioles rather slender, channelled, slightly dilated at the imbricating base, up to about 6 cm. long. Scape glabrous below, densely pilose to lanuginose above, provided with about six long-acuminate basally amplexicaul sheaths which are strict and up to 5.5 cm. long. Inflorescence racemose, rather laxly many-flowered. Flowers large, with dorsal sepal and petals erect and adnate, and lateral sepals arcuate-recurved. Sepals densely glandular-pubescent on the outer surface. Dorsal sepal narrowly oblong-oblancheolate, acute, about 23.8 mm. long and 5.4 mm. wide near the apex, cucullate above. Lateral sepals connate below into a narrowly ellipsoid spur about 12.7 mm. long of which the free apex is incurved and about 3 mm. long; free portion arcuate-recurved from a very oblique dilated base, falcate, linear-oblancheolate, acuminate, about 22 mm. long when extended (measuring along the dorsal margin) and 3 mm. wide near the apex, tubular-involute. Petals strongly adnate to the dorsal sepal throughout most of their length, narrowly oblancheolate-linear with a very oblique apical portion, acute, about 24 mm. long and 3.1 mm. wide near the apex, tubular-involute except near the apex, with the anterior margins and the anterior half of the outer surface (except near the apex) minutely glandular-puberulent. Lip with all



but the basal and apical margins strongly adnate to the column, 3-lobed near the apex with the mid-lobe de-curved in natural position, linear-spatulate in outline when expanded, shortly unguiculate with the claw adnate to the walls of the sepaline sac, with a pair of fleshy auricles at base, about 34.5 mm. long from the apex of the mid-lobe to the tip of the retrorse auricles and about 6.5 mm. wide just below the mid-lobe; mid-lobe suborbicular-ovate, trilobulate at the broad apex, about 4 mm. long and 4.5 mm. wide near the base; disc with the basal and middle portions conduplicate and densely pubescent on both surfaces, slightly dilated below. Column long and slender, about 20 mm. long, pubescent on the anterior face (minutely so above, strongly so below), extended into an adnate foot about 7 mm. long; rostellum oblong-ligulate with erose-truncate apex. Pedicellate ovary nearly twice exceeding the sepaline spur.

*Spiranthes curvicalcarata* represents a true *Pelexia* if that genus can be maintained. It appears to be allied to the Colombian ***Spiranthes hamata*** (*Schltr.*) *C. Schweinfurth comb. nov.* (*Pelexia hamata* Schltr. in Fedde Repert. Beihefte 7 (1920) 68). From that species, however, it differs in having more numerous short-petioled leaves, larger flowers, petals which are pubescent on the anterior margin and spur distinctly shorter than the ovary.

JUNIN: La Merced, Hacienda Schunke, at about 1230 meters altitude, "humus floor of montaña, plant brownish-red thruout except yellowish-white lower lip", August 27-September 1, 1923, *J. F. Macbride* 5770 (TYPE in Herb. Field Mus. No. 536800).

### ***Spiranthes pumila*** *C. Schweinfurth sp. nov.*

Herba pusilla. Folia plura, basalia, fasciculata, petiolata; lamina ovata, acuminata, basi late cuneata vel rotundata; petiolus canaliculatus. Scapus tenuis, infra glaber,

supra glanduloso-pubescens, vaginis pluribus ornatus. Spica secundiflora cum floribus pluribus. Sepalum dorsale lanceolato-oblongum, uninervium. Sepala lateralia similia, paulo majora, leviter obliqua. Petala oblonga, marginibus superioribus irregularibus. Labellum expansum in circuitu subquadrato-oblongum vel obovato-oblongum, prope apicem leviter trilobatum. Columna brevis; anthera prope basim affixa.

Plant small and slender, up to about 13 cm. tall. Roots stout, fibrous, fasciculate. Leaves six, basal, rosulate, petioled; lamina ovate, acuminate, broadly cuneate to rounded at base, up to 2 cm. long and nearly 1 cm. wide, membranaceous, reticulate-veined with the mid-nerve rather prominent beneath; petioles channelled, dilated at the imbricating base, up to about 1.4 cm. long. Scape slender, glabrous below, finely glandular-pubescent above, provided with four tubular sheaths of which the lowermost is foliaceous. Inflorescence a secund spike, 8-flowered, rather lax below, about 3.5 cm. long, arcuate. Floral bracts lanceolate, long-acuminate, with the lower ones nearly equaling the mature flowers. Flowers small, membranaceous, with the segments subparallel, mostly glabrous but minutely pubescent at base. Dorsal sepal lanceolate-oblong, about 5.7 mm. long and 1.5 mm. wide, 1-nerved, obtuse. Lateral sepals similar but a little larger, about 6 mm. long and 2 mm. wide, slightly oblique, subacute. Petals oblong, very slightly broader above the middle, about 5 mm. long and 1.2 mm. wide, acute or subacute, with the margins irregular near the apex. Lip tubular-involute in natural position with the apex recurved, sessile; lamina when expanded subquadrato-oblong or obovato-oblong, obscurely 3-lobed near the apex, about 6 mm. long and 2.8 mm. wide above the middle, with the basal part oblong-pandurate and the apical part suborbicular with undulate margins. Column



or less obtuse tip), cuneate below, submembranaceous; about 3.7 mm. long, dorso-ventrally flattened, pilose above on the anterior surface, with a triangular-ovate shortly bidentate rostellum; anther large, oblong-cordate, attached near the base of the column.

Another collection (*Schunke s.n.*, Herb. Field Mus. No. 571640) referable to this species is a small immature caespitose plant up to 7 cm. tall with 2- to 3-flowered inflorescences.

*Spiranthes pumila* differs from *S. Fawcettii* Cogn. and from ***Spiranthes cheirostyloides*** C. *Schweinfurth comb. nov.* (*Hapalorchis cheirostyloides* Schltr. in Fedde Repert. Beihefte 6 (1919) 30) in having smaller flowers with dissimilar sepals and petals.

JUNIN: Chanchamayo Valley, at 1600 meters altitude, August 1929, *Carlos Schunke 1886* (TYPE in Herb. Field Mus. No. 622367); at 1800 meters altitude, November 1924-1927, *Schunke s.n.*

***Erythroxes lobatocalcar*** C. *Schweinfurth sp. nov.*

Herba mediocris, probabiliter terrestris, infra foliosa. Folia conferta, plura, minora, elliptica, acuta vel breviter acuminata, basi cuneata. Caulis supra leviter glanduloso-pilosus. Spica cylindrica, multiflora, plusminusve elongata, tandem laxiflora. Flores parvi. Sepalum dorsale ovato-ellipticum, obtusum, concavum. Sepala lateralialia similia. Petala oblique rhombico-oblancheolata, subacuta. Labellum trilobatum, parte basali expansa suborbiculari-obovata; lobus terminalis ab ungui perbrevis abrupte expansus, reniformi-lunatus, apice rotundato minute apiculatus. Calcar clavatum, apice obtuse trilobatum. Columna brevis, rostello conspicuo suborbiculari-ovato.

Plant medium-sized, up to about 30 cm. tall (incomplete below). Leaves about eight, mostly crowded on the lower part of the stem, mostly short-petioled; lamina elliptic (rarely lanceolate-elliptic), up to about 7 cm. long and 2.5 cm. wide, acute or short-acuminate (with a more

petiole very short and indistinct, channelled, expanded below into a loose infundibuliform membranaceous sheath that surrounds the stem, up to about 2.4 cm. long. Stem glabrous below, sparingly glandular-pilose above, provided with two or three lanceolate scarious sheaths. Spike cylindric, more or less elongate, up to 11 cm. long, many-flowered, becoming loose below. Flowers small, spreading. Floral bracts lanceolate, acuminate, scarious, the lower ones nearly equaling the flower. Ovary arcuate-cylindric, glandular-pilose. Sepals sparingly glandular-pilose. Dorsal sepal ovate-elliptic, obtuse, concave, up to about 4.5 mm. long and 2.2 mm. wide, 1-nerved. Lateral sepals similar to the dorsal sepal, elliptic, obtuse, concave, up to about 5.5 mm. long and 2.5 mm. wide, 1-nerved throughout. Petals obliquely rhombic-oblancheolate, subacute, about 4.9 mm. long and 2 mm. wide, 1-nerved. Lip 3-lobed, tubular-involute below in natural position with the terminal lobe recurved, when expanded about 4.9 mm. long; the lower portion is suborbicular-obovate, about 4 mm. wide, contracted into a short broad claw above; apical lobe abrupt, reniform-lunate, broadly rounded in front with a minute apicule, rounded on each side, up to about 4.2 mm. wide. Spur slightly shorter than the ovary, dorso-ventrally flattened, cylindric-clavate, obtusely 3-lobulate at the apex, about 5 mm. long, somewhat arcuate. Column short, with a prominent suborbicular-ovate erose-margined rostellar process.

*Erythroides lobatocalcar* appears to be allied to *E. repens* (Poepp. & Endl.) Ames, but differs in having generally broader leaves, smaller flowers and a stouter lobulate spur.

SAN MARTIN: San Roque, at 1350-1500 meters altitude, in forest, January 7, 1930, *Llewelyn Williams* 6998 (TYPE in Herb. Field Mus. No. 620932; DUPLICATE TYPE in Herb. Ames No. 59580.)



**Erythrodes marmorata** *C. Schweinfurth sp. nov.*

Herba terrestris, gracilis, basi decumbens. Folia plura, prope caulis basim conferta, parva, ovata, marmorata, apice acuta, basi rotundata. Caulis villosus, vaginis pluribus inconspicuis remotis ornatus. Spica brevis, multiflora, tandem laxa. Flores spiranthiiformes. Sepala extus parce pilosa. Sepalum dorsale lanceolato-oblongum, obtusum vel subacutum. Sepala lateralialia lineari-oblonga, obtusa vel subacuta. Petala oblanceolato-oblonga, sepalo dorsali adnata. Labellum infra elliptico-subquadratum, supra leviter contractum, demum in lobum transversum lunato-reniformem acutum dilatatum. Calcar perbreve, ovoideo-conicum. Columna minuta, rostello bifido.

Plant slender, terrestrial, up to about 35 cm. tall. with the decumbent basal portion producing scattered long simple lanuginose roots. Leaves about five to seven, mostly approximate on the lower portion of the stem, petiolate; lamina ovate to oblong-ovate, up to 4.3 cm. long and 2.3 cm. wide, acute or short-acuminate, rounded or broadly cuneate at the base, maculate with two shades of green, with the margins more or less finely undulate in the dried specimen; petioles channelled, dilated near the middle to form a broad loose membranaceous infundibuliform sheath which clasps the stem. Stem slender, pilose, provided with four or five inconspicuous sheaths of which the lowermost is developed into a small blade. Inflorescence a many-flowered spike, up to about 7 cm. long, dense above, becoming very loose below. Floral bracts lanceolate, acuminate, membranaceous, about equaling or slightly exceeding the ovary. Ovary very slenderly obovoid-cylindric, finely pubescent, ascending. Flowers horizontally spreading like those of *Spiranthes*, perianth campanulate. Sepals sparingly pilose without. Dorsal sepal lanceolate-oblong, obtuse or subacute, about 5–6 mm. long and 1.8–2 mm.

wide. Lateral sepals linear-oblong, oblique at base, obtuse or subacute, about 6–6.8 mm. long and 1.5 mm. wide. Petals oblanceolate-oblong, adnate to the dorsal sepal, obtuse or subacute, lightly oblique, slightly longer than the dorsal sepal, about 1.7 mm. wide, 1-nerved. Lip tubular-involute in natural position, about 5–6.5 mm. long; when expanded the lamina is elliptic-subquadrate below, is slightly narrowed near the apex and is then abruptly dilated to form a transverse lunate-reniform terminal lobe which is about 3 mm. wide, rather abruptly and obtusely acute and rounded on each side. Spur very short, ovoid-conic or scrotiform, about 2–2.3 mm. long, provided on the inner wall near the apex with two pairs of small calli. Column very small, with a deeply bilobed rostellar process.

*Erythroides marmorata* differs from *E. minor* (Presl) Ames and from *E. ovata* (Lindl.) Ames in the shape of the lip. The inner surface of the short spur bears two pairs of calli as in several American species of *Erythroides*.

Cuzco: Prov. Paucartambo, Disto. Marcachea, near Achiram, at 2600 meters altitude, in moist humus, flowers white, July 30, 1939, C. Vargas 11163 (TYPE in Herb. Field Mus. No. 1051165; another Vargas collection (Gray Herb. No. 7752) bears the same data as *Vargas* 11163 (the type), but has 1592 as its number.

***Erythroides multifoliata* C. Schweinfurth sp. nov.**

Herba terrestris, a basi decumbenti suberecta. Caulis gracilis, glaber, foliis numerosis ornatus. Folia petiolata, elliptica vel lanceolata, acuta vel acuminata, basi late cuneata. Spica brevis, dense multiflora. Flores parvi, glabri, patentes. Sepalum dorsale oblanceolato-oblongum vel lanceolato-ellipticum, concavum. Sepala lateralia oblique oblongo-oblanceolata, margine anteriore longe producta. Petala lineari-spathulata. Labellum super medium utrinque angustatum; pars basalis concava, late obovata;



pars terminalis rhombico-lunata, apice rotundato apiculata. Calcar filiformi-cylindraceum.

Plant terrestrial from a decumbent rooting base. Roots simple, fibrous, lanuginose, apparently verticillate in twos, threes or fours. Stem slender, suberect, glabrous, leafy, about 26.5 cm. high from the tip of the spike to the rooting portion. Leaves about ten, petioled; blades elliptic to lanceolate, acute or acuminate, broadly cuneate at base, up to 11 cm. long and 3.6 cm. wide, with three to five rather prominent nerves; petioles channelled, dilated into a loose scarious infundibuliform sheath surrounding the stem, up to 2.8 cm. long. Peduncle short, wholly concealed by loose imbricating sheaths. Spike short, exceeded by some of the upper leaves, densely many-flowered, apparently quaquaversal, about 5 cm. long (the upper flowers small and immature), and up to 3 cm. in diameter in the dried specimen. Ovary slender-cylindric, very sparingly pilose. Flowers small, glabrous, spreading; segments little spreading. Dorsal sepal oblanceolate-oblong or lanceolate-elliptic, obtuse at the cucullate apex, concave, about 5.1 mm. long and 2-2.2 mm. wide, 1-nerved. Lateral sepals obliquely oblong-oblanceolate, about 5.8-6 mm. long and 2 mm. wide, subacute to obtuse at the slightly cucullate apex, with the anterior margin long-produced and adnate to the spur. Petals linear-spatulate, lightly oblique, abruptly acute to subobtuse, 1-nerved, about 5 mm. long and 1.2-1.5 mm. wide above. Lip abruptly constricted above the middle with the basal portion concave and the terminal portion recurved flat and spreading, about 4.6-5 mm. long when expanded; lower portion broadly obovate, commonly minutely angled on each side at the apex when spread out; terminal lobe rhombic-lunate, broadly rounded in front with a short apicule, narrowed to a short broad claw below, about 3.6 mm. wide between

the rounded or subtruncate sides. Spur filiform-cylindric, subacute, with the lower portion adnate to the ovary, up to 13 mm. long; near the apex there are two pairs of indistinct elongate calli on the inner walls.

*Erythroides multifoliata* appears to be allied to *E. stenocentron* (Schltr.) Ames, but differs in having numerous leaves, quaquaversal spike, etc.

LORETO: Santa Rosa, lower Río Huallaga below Yurimaguas, at 135 meters altitude, terrestrial in dense forest, sepals pale green, lip and column white, September 1-5, 1929, *E.P. Killip & A.C. Smith* 28759. (TYPE in U. S. Nat. Herb. No. 1462260).

## EXPLANATION OF THE ILLUSTRATIONS

PLATE I. *STENOPTERA CILIARIS* *C. Schweinfurth*. 1, plant, one half natural size. 2, flower and ovary from side (natural position), two and one half times natural size. 3, flower from front (expanded), two and one half times natural size. 4, lateral sepal and lip (natural position), four times natural size. 5, floral bract, one and one half times natural size.

PLATE II. *STENOPTERA LAXIFLORA* *C. Schweinfurth*. 1, plant, one half natural size. 2, flower, ovary and floral bract from side (natural position), twice natural size. 3, flower from front (expanded), twice natural size. 4, petal, four times natural size. 5, floral bract, twice natural size.

PLATE III. *STENOPTERA MONTANA* *C. Schweinfurth*. 1, plant, lower half, one half natural size. 2, plant, upper half, one half natural size. 3, flower and ovary, partially expanded, two and one half times natural size. 4, lip, showing attachment to lateral sepal, five times natural size. 5, petal, five times natural size.

PLATE IV. *ALTENSTEINIA LONGISPICATA* *C. Schweinfurth*. 1, plant, one half natural size. 2, flower, two and one half times natural size. 3, lip (expanded), four times natural size. 4, petal, four times natural size. 5, lateral sepal, four times natural size. 6, column from front, four times natural size. 7, column from side, four times natural size.



PLATE V. *PONTHIEVA LILACINA* C. Schweinfurth. 1, plant, natural size. 2, flower from front (expanded), two and one half times natural size. 3, column and lip from side (natural position), five times natural size. 4, lip with claw from front (expanded), seven and one half times natural size.

*PONTHIEVA SIMILIS* C. Schweinfurth. 5, flower from front (expanded), one and one half times natural size. 6, column and lip from side (natural position), five times natural size. 7, lip (expanded), five times natural size.

PLATE VI. *SPIRANTHES CURVICALCARATA* C. Schweinfurth. 1, plant, one half natural size. 2, flower (expanded, showing interior of spur), natural size. 3, lip, natural size.

*SPIRANTHES PUMILA* C. Schweinfurth. 4, plant, one half natural size. 5, flower from front (expanded), two and one half times natural size.

PLATE VII. *ERYTHRODES MARMORATA* C. Schweinfurth. 1, plant, one half natural size. 2, flower from front (expanded), five times natural size. 3, flower from side (natural position), five times natural size.

*ERYTHRODES LOBATOCALCAR* C. Schweinfurth. 4, plant, one half natural size. 5, flower from front (expanded), five times natural size. 6, flower from side (natural position), five times natural size.

PLATE VIII. *ERYTHRODES MULTIFOLIATA* C. Schweinfurth. 1, plant, one half natural size. 2, flower from front (expanded), five times natural size. 3, flower from side (natural position), five times natural size.



STENOPTERA  
*ciliaris* C. Schweinf.





PLATE II



STENOPTERA  
*laxiflora* C. Schweinf.

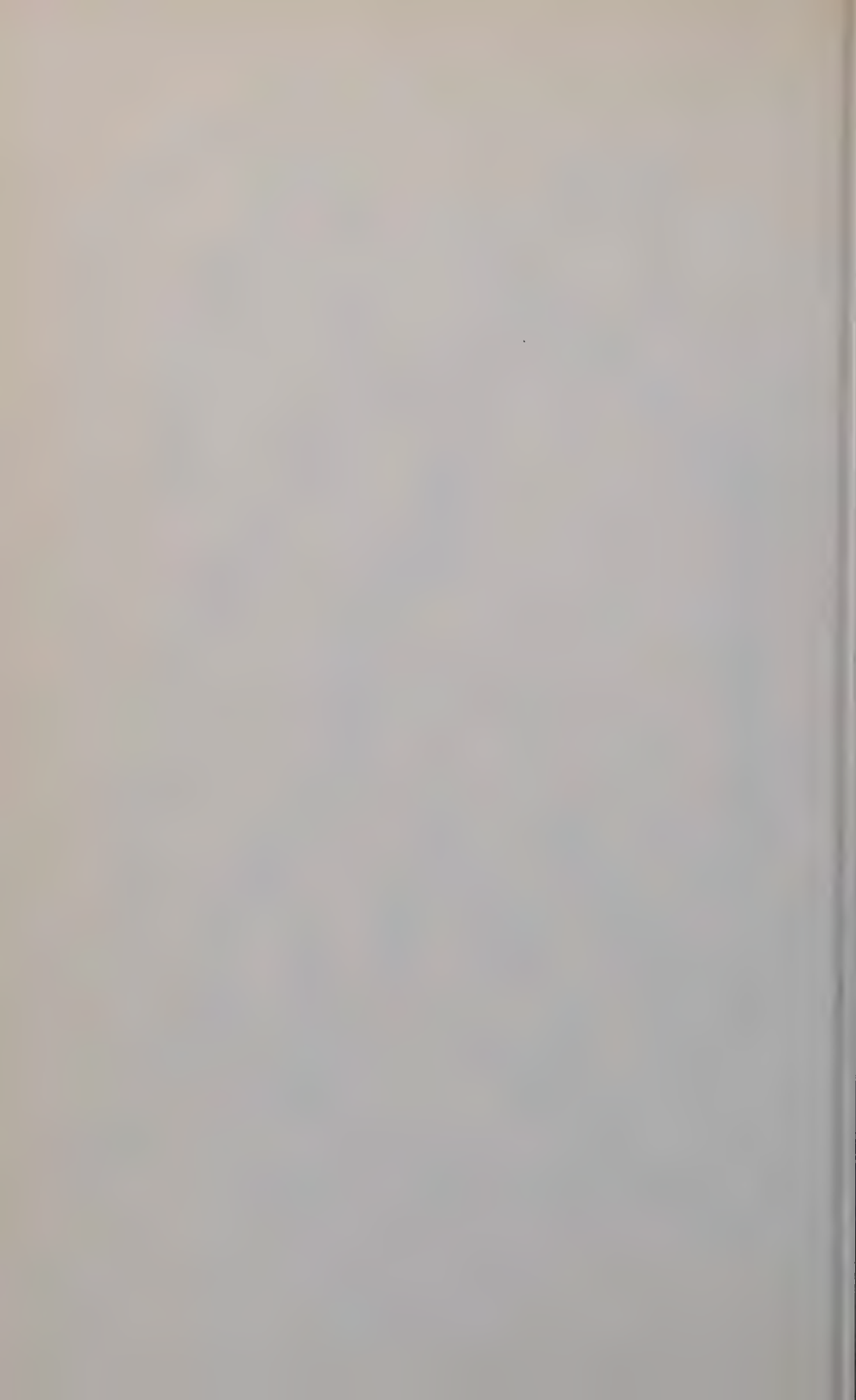


PLATE III

STENOPTERA

*montana* C. Schweinf.







PLATE IV

ALTENSTEINIA

*longispicata* C. Schweinf.







# PLATE V

**P. similis**

*G. Schweinf.*

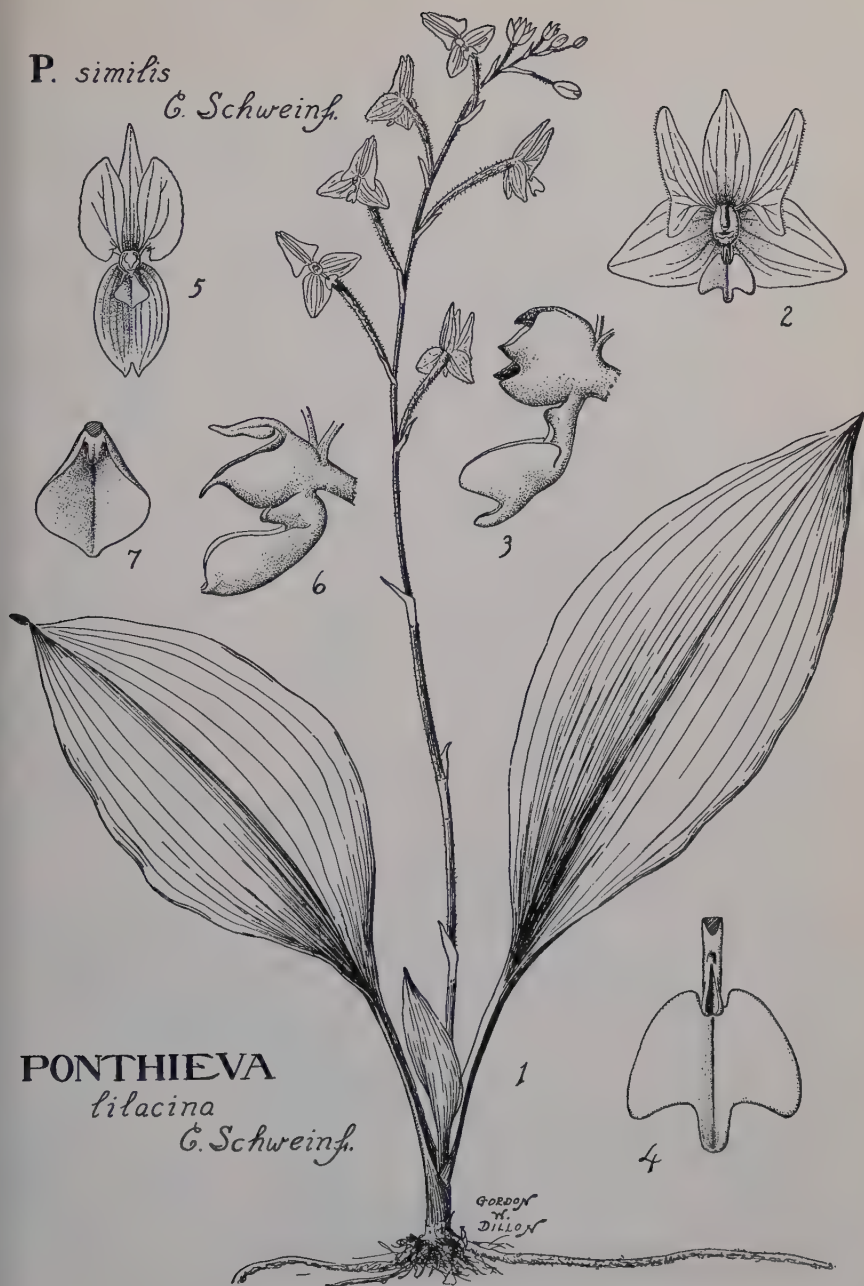




PLATE VI

SPIRANTHES

*curvicalcarata* C. Schweinf.



2

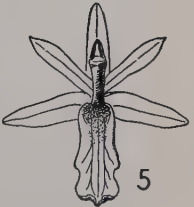


3



1

*S. pumila*  
C. Schweinf.



5



GORDON  
W.  
DILLON



4







PLATE VII

ERYTHRODES

*marmorata*

G. Schweinf.







ERYTHRODES

*multifoliata*  
C. Schweinf.





## NOMENCLATORIAL NOTES XIV

BY

CHARLES SCHWEINFURTH

***Pterichis galeata* Lindley** Gen. & Sp. Orch. Pl. (1840) 445.

*Prescottia barbifrons* Kränzlin in Engler Bot. Jahrb. 54, Beibl. 117 (1916) 19.

*Pterichis acuminata* Schlechter in Fedde Repert. Beihefte 7 (1920) 56; ex Mansfeld in Beihefte 57 (1929) t. 17, Nr. 61.

*Pterichis barbifrons* Schlechter in Fedde Repert. Beihefte 9 (1921) 127.

The concept *Pterichis barbifrons*, as illustrated by the type description of *Prescottia barbifrons* as well as by a photograph of the type specimen, appears to be reducible to the older *Pterichis galeata*. The only differences noticed are that the latter species is described as having glandular-tomentose floral bracts (as contrasted with the glabrous ones of *Pterichis barbifrons*) and that it has once-twisted petals, a character which is not observable in *Pterichis barbifrons*.

*Pterichis acuminata* Schltr. is described as having one leaf, a character not mentioned in the allied species, but otherwise it apparently differs from *Pterichis galeata* only in having straight (not twisted) petals.

The closely allied *Pterichis Weberbaueriana* Kränzlin differs from *P. galeata* in having ovate-lanceolate petals (without a basal claw) and a lip with a solid apical lobe.

***Pterichis triloba* (Lindl.) Schlechter** in Engler Bot. Jahrb. 45 (1911) 389.

*Acraea triloba* Lindley in Ann. & Mag. Nat. Hist. 15 (1845) 386.

*Pterichis seleniglossa* Schlechter in Fedde Repert. Bei-



hefte 8 (1921) 42; ex Mansfeld in Beihefte 57 (1929) t. 76, Nr. 295.

The description and floral analysis of *Pterichis seleniglossa* show that this concept is specifically inseparable from *Acraea triloba* as represented by a photograph with floral analysis from the Lindley Herbarium at Kew.

*Acraea triloba* appears to be a somewhat taller plant with a larger leaf than the type of *Pterichis seleniglossa* and has insignificant floral differences. However, a series of Peruvian collections which have come under our observation indicates that we are here concerned with a single variable species.

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## ERRATA

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- page 11, line 13  
for 1815 read 1816
- page 35, line 16  
for *pumilum* read *pusillum*
- page 38, line 16  
for ovati read ovoidei
- page 111, line 10  
for that read than
- page 176, line 26  
for vermillion read vermilion
- page 188, line 26  
for lineas latas read lineis latis
- page 219, line 8  
delete August 6, 1940
- page 219, line 9  
after cliffs insert August 6, 1940
- page 231, line 1  
transpose to bottom of page
- page 249, plate VI  
for C. pumila C. Schweinf. read C. pumila C. Schweinf.



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